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TESTING THE AUTHENTICITY OF MOLDAVITE BY ELECTRON MICROSCOPY

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The following conclusions can be drawn from morphological research /170 of moldavite, volcanic glass (obsidian, perlite) and synthetic (bottle) glass by electron microscopy:

While the basic mass of natural glass has a globular structure, volcanic glass contains additionally microlites, there is an absence of globular structure in synthetic glass, but it contains an abundance of microlites.

Among the original features of the submicromorphology of moldavite with globular structure and an absence of microlites are fluidity, waviform layering of the basic mass as well as the presence of inclusions of various forms of  $\text{SiO}_2$ , morphologically remarkably differing from microlites. The unique morphology of moldavite is also confirmed by the presence of spherules of varying configuration (circular cone, ellipsoid, tear, bent drop, rarely sphere).

On the basis of the determined characteristic properties of moldavite it is possible to identify tektic glass and differentiate it from volcanic and synthetic glass. The important feature of identification by electron microscopy is the fact that there occurs no damage to the surface of the examined geological sample of tektite or moldavite gem.

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